



Launch Mission Execution Forecast

Mission: Falcon 9 CRS-23

Issued: 26 Aug 2021 / 0800L (1200Z)

Valid: 28 Aug 2021 / 0332 – 0342L (0732 – 0742Z)



Forecast Discussion: The mid-level disturbance that brought thunderstorms, heavy rain, and gusty winds to the Space Coast during the overnight and morning hours will pass to our northwest later today, with mid-level ridging building back over the southeastern US by tomorrow. High pressure at the surface centered off the coast of the Carolinas will allow for a deep southeasterly flow regime Friday into Saturday morning, keeping ample moisture in the region. This set-up favors onshore-moving coastal showers in the overnight hours, but mild instability should help limit their growth and subsequent thunderstorm potential. A disturbance located just south of Jamaica this morning is expected to move into the Gulf over the weekend. While it will not directly impact east central Florida, it will usher in mid and upper level moisture into our area, introducing the potential for a mid-level cloud deck. Because of this and the scattered coastal showers, the primary concerns for the launch window on Saturday morning are the Cumulus Cloud Rule, the Flight Through Precipitation constraint, and the Thick Cloud Layers Rule.

For the back-up window on Sunday morning, we remain in a similar pattern with continued onshore flow. The aforementioned tropical system will likely continue to develop in the Gulf, but there still remains some uncertainty as to its exact strength and location. This will have a large impact on our chance of showers as well as the mid to upper level cloud decks. Thus, the primary concerns remain the same as on Saturday with a slightly lower probability of violation.

Launch Day	Probability of Violating Weather Constraints							
	50%	Primary Concerns: Cumulus Cloud Rule, Flight Through Precipitation, Thick Cloud Layers Rule						
	Weather Conditions					Additional Risk Criteria		
	Weather/Visibility:	Sct Showers / 7 mi.	Type	Coverage	Base (ft)	Tops (ft)	Upper-Level Wind Shear:	Low
	Temp/Humidity:	79°F / 90%	Cumulus	Scattered	2,500	14,000	Booster Recovery Weather:	Low
	Liftoff Winds (200'):	110° 12 - 17 mph	Altostratus	Broken	16,000	20,000	Solar Activity:	Low
24-Hour Delay	Probability of Violating Weather Constraints							
	40%	Primary Concerns: Cumulus Cloud Rule, Flight Through Precipitation, Thick Cloud Layers Rule						
	Weather Conditions					Additional Risk Criteria		
	Weather/Visibility:	Iso'd Showers / 7 mi.	Type	Coverage	Base (ft)	Tops (ft)	Upper-Level Wind Shear:	Low
	Temp/Humidity:	78°F / 90%	Cumulus	Scattered	2,500	12,000	Booster Recovery Weather:	Low
	Liftoff Winds (200'):	120° 10 - 15 mph	Altostratus	Scattered	18,000	22,000	Solar Activity:	Low
Note: The Probability of Violation (POV) is the chance that a Lightning Launch Commit Criteria (LLCC) or certain user constraints (surface winds, precipitation, and temperatures, etc.) will be violated during the launch window. It does not take into account upper-level wind shear, booster recovery weather, and solar activity.								
Next Forecast Will Be Issued		27 Aug 2021						